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SCOPE OF CLAIMS

1. An apparatus for processing an image to generate a second image of higher spatial resolution from a
5 first image of lower spatial resolution which is composed of image data made up of a plurality of component signals, comprising:

acquiring means for acquiring first pixel data of the first image; and

10 predicting means for predicting a first component signal of second pixel data of the second image using at least first and second component signals out of component signals of said first pixel data, and predicting a second component signal of the second pixel data of said second
15 image using at least said first and second component signals out of the component signals of the first pixel data.

2. An apparatus according to claim 1, further comprising:

20 classifying means for classifying said first pixel data into a class; and

memory means for storing predicted data corresponding to said class; and

wherein said predicting means predicts the component
25 nent signals using said predicted data.

3. An apparatus according to claim 1, wherein
said pixel data comprises three said component signals.

4. An apparatus according to claim 3, wherein
5 said component signals comprise R, G, and B signals.

5. A method of processing an image to generate a
second image of higher spatial resolution from a first image
of lower spatial resolution which is composed of image data
10 made up of a plurality of component signals, comprising the
steps of:

acquiring first pixel data of the first image;

and

predicting a first component signal of second
15 pixel data of the second image using at least first and sec-
ond component signals out of component signals of said first
pixel data, and predicting a second component signal of the
second pixel data of said second image using at least said
first and second component signals out of the component sig-
20 nals of the first pixel data.

6. An apparatus for encoding an image, compris-
ing:

compressing means for compressing a plurality of
25 pixel data expressed by vectors in a color space by making
the pixel data fewer;

classifying means for classifying the compressed pixel data into a class;

memory means for storing predictive data corresponding to said class and including the pixel data expressed by vectors in the color space; and

predicting means for predicting an image using the predictive data.

7. An apparatus according to claim 6, wherein said compressing means extracts a central pixel from nine pixels.

8. An apparatus according to claim 6, wherein said compressing means multiplies the plurality of pixel data by a predetermined coefficient to generate one item of pixel data.

9. An apparatus according to claim 6, wherein said classifying means effects a 1-bit ADRC process on said pixel data to classify the compressed pixel data into the class.

10. A method of encoding an image, comprising the steps of:
compressing a plurality of pixel data expressed by vectors in a color space by making the pixel data fewer;

classifying the compressed pixel data into a
class;

storing predictive data corresponding to said
class and including the pixel data expressed by vectors in
5 the color space; and

predicting an image using the predictive data.